

WHAT IS CLAIMED IS:

- 1 1. Fluorescent composition for manufacturing single- and multilayer optical discs of CD
2 ROM, DVD and WORM types with fluorescent reading, comprising:
 - 3 - fluorescent dye,
 - 4 - film-forming polymer,
 - 5 - plasticizer, and, if necessary,
 - 6 - surfactant, and
 - 7 - light stabilizer.
- 1 2. Fluorescent composition of claim 1, distinguished by choosing the fluorescent dye
2 among xanthene dyes of the eosine and rhodamine groups, acridine, oxazine, azine,
3 perylene, violanthrone, cyanine, phthalocyanine dyes, indigoid colors and porphyrines.
4 Content of the fluorescent dye in the layer is 0.1-10%.
- 1 3. Fluorescent composition of claim 1, distinguished by choosing the film-making
2 polymer among the resins, including cellulose esters, such as nitrocellulose, cellulose
3 acetate, cellulose acetate butyrate; cellulose ethers such as methyl cellulose, ethyl
4 cellulose, butyl cellulose; vinyl resins such as polyvinyl acetate, polyvinyl butyral,
5 polyvinyl acetal, polyvinyl alcohol and polyvinyl pyrrolidone, acrylic resins such as
6 polymethylmethacrylate, polybutyl acrylate, polymethacrylic acid, polyacrylic amid and
7 polyacrylonitrile and their mixture.
- 1 4. Fluorescent composition of claim 1, distinguished by choosing the plasticizer among
2 phthalates (dibutyl phthalate, dioctyl phthalate at al) and phosphates (triphenylphosphate,
3 tricresylphosphate at al). Content of the plasticizer in the layer is 10-50%.
- 1 5. Method of producing the optical disc by solvating the compounds of claim 1 in an
2 organic solvent chosen among alcohols, ketones, amides, sulfoxides, ethers, esters,
3 halogenated aliphatic hydrocarbons or aromatic solvents, then dispersing the received
4 composition by spin coating, roller coating or dip coating on a substrate, which is a
5 polycarbonate or polyethylene terephthalate disc, or on a primer.

1 6. Method of increasing the fluorescent signal from optical discs by placing a primer 10-
2 100 nm thick between the substrate and the active layer, which prevents the substrate
3 from aggressive impact of the solvents belonging to the fluorescent composition.

1 7. Method of increasing the fluorescent signal level, distinguished by use of liquid silica
2 glass, Colcoat N-103X product by Colcoat Co., Ltd., polyvinyl alcohol, heat treated after
3 depositing on the substrate, thermosetting resins, including epoxy, phenol-, urea- and
4 melamine-formaldehyde resins, polyorganosiloxanes, as well as latexes – divinyl styrene,
5 divinylonitrile, styrene acrylate, alkyd, acrylate, etc. for producing the primer.

1 8. Method of increasing the fluorescent signal level, distinguished by use of different
2 surface-active substances, such as butyl glycol, propylene glycol, dimethyl glycol, diethyl
3 glycol, etc., as well as by heating the material at 100-120°C for improving adhesion of the
4 active layers to the substrate or the primer.

1 9. Method of increasing the fluorescent signal level, distinguished by making a substrate
2 from the polymer, providing effective absorption of non-fluorescent associates on its
3 boundary with the active layer, as well as good adhesion of the active layer to the
4 substrate.

1 10. Method of increasing the fluorescent signal level according to item 9 distinguished by
2 use of polyvinylchloride and its co-polymers as the substrate.

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